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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,978	07/18/2003	Jimmy R. Roehrig	061154-0075US	3001

24341 7590 06/23/2008

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EXAMINER	
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ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
06/23/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/622,978	ROEHRIG ET AL.	
	Examiner	Art Unit	
	DAVID P. RASHID	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,5,7,9,10,22,23,25-29 and 31-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,5,7,9,10,22,23,25-29 and 31-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 June 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

All of the examiner's suggestions presented hereinafter have been assumed for examination purposes, unless otherwise noted.

Continued Examination Under 37 CFR 1.114

[1] A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 5, 2008 has been entered.

Amendments

[2] This office action is responsive to the claim amendment received on June 5, 2008. Claims 1-2, 4-5, 7, 9-10, 22-23, 25-29, and 31-33 remain pending; claims 3, 6, 8, 11-21, 24, and 30 cancelled; claim 33 new.

Drawings

[3] The replacement drawings were received on June 5, 2008 and are acceptable. In response to applicant's drawing amendments and remarks, the previous drawing objections are withdrawn.

Claim Rejections - 35 USC § 101

[4] In response to applicant's 35 USC § 101 rejection amendments and remarks received on June 5, 2008, the previous 35 USC § 101 rejection are withdrawn.

Claim Rejections - 35 USC § 112

[5] The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

[6] **Claims 9-10** and **23** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(i) Claims 9-10 depend from a cancelled claim - suggest changing to "method of claim 1 ~~8~~ wherein..."

(ii) Claim 23 is an incomplete sentence - suggest adding in elements from claim 4.

Claim Rejections - 35 USC § 103

[7] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

[8] **Claims 1-2** and **4-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,657,362 (issued Aug. 12, 1997) [*hereinafter* "Giger et al."] in view of U.S. Pub. No. 2002/0101960 (published Aug. 1, 2002) [*hereinafter* "Nokita"].

Regarding **claim 1**, *Giger et al.* discloses a method for computer aided detection of medical abnormalities (the highlights are abnormalities in fig. 6) in x-ray medical images (fig. 3; fig. 27, item 2700) comprising the steps of:

processing a digital or digitized x-ray medical image (fig. 3) of an object ("breast" at 1:62-65) to remove distinguishing effects (fig. 8, item 803; "[t]his subtraction process can be performed. . .in terms of relative x-ray exposure (by use of the characteristic curve in the imaging system)" at 5:57-65) of at least operating parameter or physical characteristics ("relative

x-ray exposure" at 5:57-65) of an x-ray device (fig. 28, item 2700) used to form said x-ray medical image (*e.g.*, fig. 3) and the effects of fat content (fig. 1, item 102) in the object being imaged, thereby forming a processed x-ray medical image (the image after item 803 in fig. 8 is a processed x-ray medical image);

processing (fig. 8, item 804) the processed x-ray medical image according to predetermined values (the predetermined values needed to construct the original digital image item 800, fig. 8) for said at least one operating parameter or physical characteristic ("relative x-ray exposure" at 5:57-65) to generate a original-form version of said x-ray medical image ("[t]he resulting image is normalized to match the average gray level of the original image" at 6:27-30) characterizing the x-ray medical image of the object that would have been obtained by the x-ray device using said original and predetermined values therefor (normalizing the image would return it to its original state); and

processing said original-form version (the image after item 804 in fig. 8 is now an original-form version) of said x-ray medical image with a computer aided detection algorithm (*e.g.*, fig. 10b) that has been optimized with a plurality of x-ray medical images (fig. 10b, item 1005) that have been similarly processed into original-form versions (it is implicit if not already inherent that for a neural network to be trained, similarly processed images are used) thereof using the same predetermined values (the predetermined values needed to construct the original digital image item 800, fig. 8) for said at least one operating parameter or physical characteristic ("relative x-ray exposure" at 5:57-65); and

storing results (fig. 23; fig. 27, item 2706) of the processing of said original-form version (the image after item 804 in fig. 8 is now as original-form version) of said x-ray medical image

(the image after item 803 in fig. 8 is a processed x-ray medical image) with the optimized computer aided detection algorithm (see above), *Giger et al.* does not disclose generating a standard-form version of said x-ray medical image.

Nokita teaches generating a standard-form version ("standard imaging time (an X-ray exposure time)" at para. 0070) of a x-ray medical image (fig. 1, item 180) and subtracting to achieve a standard-form version state (fig. 7; para. 0076).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for reverting back to the original-form version of *Giger et al.* to be reverting back to a standard-state version as taught by *Nokita* "to provide a radiographic apparatus, a radiographic method, and a computer-readable storage medium for acquiring a radiograph, wherein the probability that a moire pattern is not generated or, is inconspicuous in the radiograph is heightened.", *Nokita*, para. 0012.

Regarding **claim 2**, *Giger et al.* discloses wherein the x-ray medical image is a mammogram (fig. 3; 2:10-12).

Regarding **claim 4**, *Giger et al.* discloses wherein at least one operating parameter or physical characteristic ("relative x-ray exposure" at 5:57-65) of the x-ray device is selected from the group consisting of x-ray energy; exposure ("relative x-ray exposure" at 5:57-65); and distance between compression plates.

Regarding **claim 5**, *Giger et al.* discloses wherein the processing removes distinguishing effects of the following physical characteristics: anode material; source to image distance; anti-scatter grid geometry; film characteristics; and screen-film system (the subtraction step fig. 8, item 803 removes these effects).

[9] **Claims 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between *Giger et al.* in view of *Nokita* and X-ray characterization of normal and neoplastic breast tissues, Phys. Med. Biol., 1987, Vol. 32, No. 6, 675-695 [*hereinafter* "Johns et al."].

Regarding **claim 7**, while *Giger et al.* discloses wherein an x-ray image of a reference material (fig. 1, element 102; "fat pixels" at 5:49-65) is formed at the same time as the mammogram ("original image" at 5:49-65) and under substantially the same conditions, the method further comprising the step of identifying fat content in the mammogram by comparing exposure values in the mammogram with exposure values on the x-ray image of the reference material (fig.6A-6D; 5:57-57), *Giger et al.* in view of *Nokita* does not teach wherein the reference material has known-x-ray attenuation characteristics representative of different percentages of fat content in the breast.

Johns et al. discloses an x-ray characterization of normal and neoplastic breast tissue (Abstract, pg 675) wherein reference material has known-x-ray attenuation characteristics representative of different percentages of fat content in the breast (Section I. Introduction, page 676, third paragraph. Since the measuring was done on multiple patients and the fact each breast contains a distinct percentage of fat content, the x-ray attenuation characteristics are representative of different percentages of fat content in the breast.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the method of *Giger et al.* in view of *Nokita* to include the reference material having known x-ray attenuation characteristics representative of different percentages of fat content in the breast as taught by *Johns et al.* for "…the detection of infiltrating duct carcinomas in a fibrous breast.", Johns, Section I. Introduction, page 676, fifth paragraph in the case of

single-energy imaging, and for "…imaging carcinomas with suppression of 'clutter' due to fat/fibrous contrast.", *Johns et al.*, Section I. Introduction, page 676, fifth paragraph in the case of dual-energy.

[10] **Claims 9-10** and **26-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Giger et al.* in view of *Nokita* and U.S. Patent No. 4,596,029 (issued Jun. 17, 1986) [*hereinafter* "Manueco Santurtun et al."].

Regarding **claim 9**, while *Giger et al.* in view of *Nokita* discloses the method of claim 1, *Giger et al.* in view of *Nokita* does not disclose wherein the standard x-ray energy of the standard form image representative of the image is in the range 25-28 kVp.

Manueco Santurtun et al. discloses an x-ray generator with phase-advance voltage feedback (fig. 2) wherein the standard ("typical") x-ray energy suggested is in the range 25-28 kVp (3:3-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the method of *Giger et al.* in view of *Nokita* to include a standard x-ray energy in the range 25 – 28 kVp for its standard form image representative of the image as taught by *Manueco Santurtun et al.* for providing "…typical requirements for X-ray applications…", *Manueco Santurtun et al.,* 3:5-6.

It must be noted that the normalization of the subtraction image will naturally bring the values of the isolated abnormalities of the processed image back into the range of the standard x-ray energy used in the original image. In essence, the x-ray energy used to create the original image will be again seen in the normalized processed image, so motivation can also arise in using a standard x-ray energy in the original image as argued above.

Regarding **claim 10**, while *Giger et al.* in view of *Nokita* discloses the method of claim 1, *Giger et al.* in view of *Nokita* does not disclose wherein the standard exposure is in the range 20 – 200 milli-Ampere-seconds.

Manueco Santurtun et al. discloses an x-ray generator with phase-advance voltage feedback (fig. 2) wherein the standard ("typical") exposure suggested is in the range 20 – 200 milli-Ampere-seconds (3:3-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the method of *Giger et al.* in view of *Nokita* to include a standard exposure in the range 20 – 200 milli-Ampere-seconds for its standard form image representative of the image as taught by *Manueco Santurtun et al.* for providing "…typical requirements for X-ray applications…", *Manueco Santurtun et al.,* 3:5-6.

Regarding **claim 26**, claim 9 recites identical features as in claim 26. Thus, references/arguments equivalent to those presented above for claim 9 is equally applicable to claim 26.

Regarding **claim 27**, claim 10 recites identical features as in claim 27. Thus, references/arguments equivalent to those presented above for claim 10 is equally applicable to claim 27.

[11] **Claims 22-23,** and **33** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between *Giger et al.* in view of *Nokita* and U.S. Patent No. 5,954,650 (issued Sep. 21, 1999) [*hereinafter* "Saito et al."].

Regarding **claim 22**, while *Giger et al.* discloses a method for processing mammographic images (1:8-19) comprising the steps of:

processing a plurality of digital or digitized formed by the same mammography system to remove effects of the same mammography system and fat content in the breast being imaged, thereby forming a first processed images (refer to references/arguments cited in the first processing step of claim 1); and

converting each first processed image into a original-form x-ray mammogram having a first original x-ray voltage parameter and a first original exposure parameter (refer to references/arguments cited in the second processing step of claim 1); and

storing the standard-form x-ray mammograms (refer to references/arguments cited in claim 1)

whereby visual comparison of x-ray mammograms taken by the same x-ray mammography system is facilitated by comparing standard-form x-ray mammograms derived from mammograms taken by the same x-ray mammography system (refer to references/arguments cited in claim 1 in the third processing step), *Giger et al.* does not teach (i) generating a standard-form version of said x-ray medical image; (ii) all of the method steps performed by different x-ray mammography systems.

Nokita teaches generating a standard-form version ("standard imaging time (an X-ray exposure time)" at para. 0070 and thus a standard voltage parameter to achieve the standard x-ray exposure time) of an x-ray medical image (fig. 1, item 180) and subtracting to achieve a standard-form version state (fig. 7; para. 0076).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for reverting back to the original-form version of *Giger et al.* to be reverting back to a standard-state version as taught by *Nokita* "to provide a radiographic apparatus, a radiographic

method, and a computer-readable storage medium for acquiring a radiograph, wherein the probability that a moire pattern is not generated or, is inconspicuous in the radiograph is heightened.", *Nokita*, para. 0012.

Saito et al. discloses a medical image processing apparatus (fig. 1) whereby visual comparison of images (fig. 1, item 1) taken by different imaging systems (fig. 1, x-ray CT image, MRI image, and fusion image) is facilitated by comparing images derived from images taken by the different images systems (1:6-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for all the method-steps in the method of *Giger et al.* to be performed by different x-ray mammography systems as taught by *Saito et al.* "…to provide a strongly desired medical image processing apparatus where images of the same position with the same size, which have been imaged by modalities using different imaging methods, are superimposed on and composed with each other and are displayed so as to be able to be compared with each other realistically and visually.", *Saito et al.*, 1:62-67.

Regarding **claim 23**, claim 2 recites identical features as in claim 23. Thus, references/arguments equivalent to those presented above for claim 2 is equally applicable to claim 23.

Regarding **claim 33**, while *Giger et al.* discloses a method for processing mammographic images (1:8-19) comprising the steps of:

processing a plurality of digital or digitized formed by a first x-ray mammography system to remove effects of the first mammography system and fat content in the breast being imaged,

thereby forming a first processed images (refer to references/arguments cited in the first processing step of claim 1); and

processing the digital or digitized mammogram of a breast formed by a second x-ray mammography system to remove effects of the second mammography system and fat content in the breast being image, thereby forming a second processed image (refer to references/arguments cited in the first processing step of claim 1 wherein the first and second x-ray mammography systems are the same system);

converting each first processed image into a original-form x-ray mammogram having a first original x-ray voltage parameter and a first original exposure parameter (refer to references/arguments cited in the second processing step of claim 1); and

storing the standard-form x-ray mammograms (refer to references/arguments cited in claim 1)

whereby visual comparison of x-ray mammograms taken by the same x-ray mammography system is facilitated by comparing standard-form x-ray mammograms derived from mammograms taken by the same x-ray mammography system (refer to references/arguments cited in claim 1 in the third processing step), *Giger et al.* does not teach (i) generating a standard-form version of said x-ray medical image; (ii) all of the method steps performed by different x-ray mammography systems.

Nokita teaches generating a standard-form version ("standard imaging time (an X-ray exposure time)" at para. 0070 and thus a standard voltage parameter to achieve the standard x-ray exposure time) of an x-ray medical image (fig. 1, item 180) and subtracting to achieve a standard-form version state (fig. 7; para. 0076).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for reverting back to the original-form version of *Giger et al.* to be reverting back to a standard-state version as taught by *Nokita* "to provide a radiographic apparatus, a radiographic method, and a computer-readable storage medium for acquiring a radiograph, wherein the probability that a moire pattern is not generated or, is inconspicuous in the radiograph is heightened.", *Nokita*, para. 0012.

Saito et al. discloses a medical image processing apparatus (fig. 1) whereby visual comparison of images (fig. 1, item 1) taken by different imaging systems (fig. 1, x-ray CT image, MRI image, and fusion image) is facilitated by comparing images derived from images taken by the different images systems (1:6-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for all the method-steps in the method of *Giger et al.* to be performed by different x-ray mammography systems (and hence the first and second x-ray mammography system being different) as taught by *Saito et al.* "…to provide a strongly desired medical image processing apparatus where images of the same position with the same size, which have been imaged by modalities using different imaging methods, are superimposed on and composed with each other and are displayed so as to be able to be compared with each other realistically and visually.", *Saito et al.*, 1:62-67.

[12] **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over *Giger et al.* in view of *Nokita, Saito et al.*, and *Johns et al.*

Regarding **claim 25**, claim 7 recites identical features as in claim 25. Thus, references/arguments equivalent to those presented above for claim 7 is equally applicable to claim 25.

[13] **Claims 26-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Giger et al.* in view of *Nokita, Saito et al.*, and *Manueco Santurtun et al.*

Regarding **claim 26**, claim 9 recites identical features as in claim 26. Thus, references/arguments equivalent to those presented above for claim 9 is equally applicable to claim 26.

Regarding **claim 27**, claim 10 recites identical features as in claim 27. Thus, references/arguments equivalent to those presented above for claim 10 is equally applicable to claim 27.

[14] **Claims 28-29** are rejected under 35 U.S.C. 103(a) as being unpatentable *Johns et al.* in view of *Giger et al* and *Saito et al.*

Regarding **claim 28**, while *Johns et al.* discloses a method for processing mammographic images (Section 2. Methods, page 676) comprising the step of:

forming in a first mammography system a digital or digitized mammogram of a breast along with images of first and second reference materials having thicknesses that range from 0 to the thickness of the breast (Fig. 6; Section 3.4, page 689, second paragraph), one reference material having an attenuation constant that is approximately the same as that of fat (Section I. Introduction, page 676, third paragraph) and the other having an attenuation constant that is approximately the same as that of glandular tissue (Section I. Introduction, page 676, third paragraph), *Johns et al.* does not teach the steps of:

(i) using exposure information in images of the first and second reference materials to process the digital or digitized mammogram system to remove substantially all effects related to the physical characteristics of the first mammography system and its operating parameters and the effect of fat content in the breast being imaged, thereby forming a first processed image;

(ii) converting the first processed image into a standard-form mammogram having pixel values that would have been obtained by a standard-form mammography system having a first standard x-ray voltage parameter and a first standard exposure parameter; and

(iii) storing said standard-form mammogram whereby

(iv) visual comparison of mammograms taken by different mammography systems is facilitated by comparing standard-form mammograms derived from mammograms taken by the different mammography systems.

Giger et al discloses an automated method and system for computerized detection of masses and parenchymal distortions in medical images (1:8-19) that teaches

(i) using exposure information in the images to process the digital or digitized mammogram system (5:57-59) to remove substantially all effects related to the physical characteristics of the first mammography system and its operating parameters (refer to references/arguments cited in claim 4) and the effect of fat content in the breast being imaged, thereby forming a first processed image;

(ii) converting the first processed image into a standard-form mammogram having pixel values that would have been obtained by a standard-form mammography system having a first standard x-ray voltage parameter and a first standard exposure parameter (refer to references/arguments cited in claim 8); and

(iii) storing said standard-form mammogram (fig. 27, item 2706).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the method of Johns to

(i) use exposure information in the images of the first and second reference materials of *Johns et al.* to process the digital or digitized mammogram system of *Johns et al.* to remove substantially all effects related to the physical characteristics of the first mammography system and its operating parameters and the effect of fat content in the breast being imaged, thereby forming a first processed image;

(ii) convert the first processed image into a standard-form mammogram having pixel values that would have been obtained by a standard-form mammography system having a first standard x-ray voltage parameter and a first standard exposure parameter; and

(iii) store said standard-form mammogram as taught by *Giger et al* "…to provide a method and system for detecting, classifying, and displaying lesions such as masses and tissue distortions in medical images such as images of the breast.", *Giger et al*, 1:62-65.

The above method of the combination of *Johns et al.* in view of *Giger et al* does not teach whereby visual comparison of mammograms taken by different mammography systems is facilitated by comparing standard-form mammograms derived from mammograms taken by the different mammography systems.

Saito et al. discloses a medical image processing apparatus (fig. 1) whereby visual comparison of images (fig. 1, item 1) taken by different imaging systems (fig. 1, x-ray CT image, MRI image, and fusion image) is facilitated by comparing images derived from images taken by the different images systems (1:6-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the standard-form mammograms in the method of the combination between *Johns et al.* in view of *Giger et al* to facilitate visual comparison of images taken by different imaging systems by comparing images derived from images taken by the different images systems as taught by *Saito et al.* "…to provide a strongly desired medical image processing apparatus where images of the same position with the same size, which have been imaged by modalities using different imaging methods, are superimposed on and composed with each other and are displayed so as to be able to be compared with each other realistically and visually.", *Saito et al.*, 1:62-67.

Regarding **claim 29**, while the combination *Johns et al.* in view of *Giger et al* and *Saito et al.* to disclose the method of 28, the combination does not teach wherein the processing removes distinguishing effects of both of the following operating parameters of the mammography system: x-ray energy and exposure.

Giger et al discloses an automated method and system for computerized detection of masses and parenchymal distortions in medical images (1:8-19) that teaches wherein the processing removes distinguishing effects of both of the following operating parameters of the mammography system: x-ray energy; exposure (refer to references/arguments cited in claim 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the combination of *Johns et al.* in view of *Giger et al* and *Saito* to include wherein the processing removes distinguishing effects of both of the following operating parameters of the mammography system: x-ray energy and exposure as taught by *Giger et al* so that "..the number of false positives due to fat will be reduced.", *Giger et al*, 5:39-41.

[15] **Claims 31-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Johns et al.* in view of *Giger et al.*, *Saito et al.*, and *Manueco Santurtun et al.*

Regarding **claim 31**, claim 9 recites identical features as in claim 31. Thus, references/arguments equivalent to those presented above for claim 9 is equally applicable to claim 31.

Regarding **claim 32**, claim 10 recites identical features as in claim 32. Thus, references/arguments equivalent to those presented above for claim 10 is equally applicable to claim 32.

Response to Arguments

[16] Applicant's arguments filed on June 5, 2008 with respect to **claim 1** have been respectfully and fully considered, but they are not found persuasive.

Summary of Remarks regarding **claim 1:**

Applicant argues that Giger discloses various processing techniques, she does not disclose or suggest the step of forming a standard form image. The claims remaining in this application all require the formation of a standard form image. Giger does not disclose or suggest such a step in her disclosure in FIG. 8 of a normalization step 804. As indicated at Col. 6, lines 30-32, this step merely normalizes an image so that its average gray level matches the average gray level of the original image. No suggestion is made of applicants' claimed step in claims 22, 28 and 33 of forming an image representative of the image that would be formed at a standard x-ray energy and exposure. Likewise, no suggestion is made of applicants' claimed step in claim 1 of forming an image that would have been obtained by an x-ray device using a predetermined

value of at least one operating parameter or physical characteristic. (Applicant Resp. at 7-8, Jun 5, 2008.)

Applicant argues that there is no indication in Giger that the original image was formed at a standard x-ray energy and exposure. Since the effect of the subtraction process remains after normalization, Applicant submitted that the normalized image cannot be characterized as having reverted to its standard x ray energy and exposure or to any other operating parameter or physical characteristic. (Resp. at 8.)

[17] **Examiner's Response** regarding **claim 1:**

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new grounds of rejection.

Conclusion

[18] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5740267 A; US 5930327 A; and US 6058322 A;.

[19] Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID P. RASHID whose telephone number is (571)270-1578. The examiner can normally be reached Monday - Friday 7:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-74155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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